



EN CAREER PATH (SW)



Engineman (EN). EN duties include aligning fuel, water, and air piping systems and control operation of diesel engines used for ship propulsion, to propel small craft and to generate electrical power; cleaning, lubricating, adjusting, testing and performing other preventive maintenance on diesel engines, reduction gears, air compressors, hydraulic or pneumatic clutches, steering engines and controllable pitch propeller systems; repairing or replacing valves, pumps, compressors, heat exchangers and control devices used with diesel engines and gas turbines; making entries into and analyzing machinery operating records and reports.

| YEARS OF SERVICE | CAREER MILESTONES | AVERAGE TIME TO ADVANCE | COMMISSIONING OR OTHER SPECIAL PROGRAMS | SEA/ShORE FLOW | TYPICAL CAREER PATH DEVELOPMENT |
|------------------|-------------------|-------------------------|---|----------------|--|
| 28-30 | ENCM | 20.5 Yrs | CSEL, ECM, Diesel Engine Inspector (DEI) | 36 | 4 th Shore Tour Billet: Ship Sup, ATG Lead, Training Manager, ECM/TECHAD Duty: BUPERS, ATG, RMC, IMA, SWSC Qualification: DEI |
| 24-28 | ENCM ENCS | 20.5 Yrs 17.7 | CSEL, Diesel Engine Inspector (DEI) | 48 | 4 th Sea Tour Billet: Dept LCPO, 3MC Duty: ACU, STAFF, CVN, DDG, LCS, LHA, LHD, LPD, LSD, SBT, NSW Qualification: Prop Plant Mgr (U16A NEC), EOOW, ETT Coordinator, DEI, EXW |
| 21-24 | ENCM ENCS | 20.5 Yrs 17.7 | CWO, CSEL, ECM, CSEL, Diesel Engine Inspector (DEI) | 36 | 3 rd Shore Tour Billet: ECM/TECHAD, Ship Sup, Instructor, Curr. Dev., RDC, Recruiter Duty: BUPERS, NSYD, SRF, IMA, RMC, Schoolhouse, ATG Qualification: DEI, MTS/ATS |
| 17-21 | ENCS ENC | 17.2 Yrs 13.7 | CWO, CSEL Diesel Engine Inspector (DEI) | 48 | 3 rd Sea Tour Billet: DLCPO, LCPO, 3MC Duty: ACU, STAFF, CVN, DDG, LCS, LHA, LHD, LPD, LSD, SBT, NSW Qualification: Prop Plant Mgr (U16A NEC), EXW, ESWS, EAWS, EOOW, ETT Coord. |
| 14-17 | ENC EN1 | 13.3 Yrs 8.3 | LDO, CWO, SARP Diesel Engine Inspector (DEI) | 36 | 2 nd Shore Tour Billet: RDC, Instructor, Recruiter, Inspector Duty: RMC, Shipyard, ATG, SWSC, NSW Qualification: ATS, MTS, DEI |



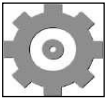
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| YEARS OF SERVICE | CAREER MILESTONES | AVERAGE TIME TO ADVANCE | COMMISSIONING OR OTHER SPECIAL PROGRAMS | SEA/ShORE FLOW | TYPICAL CAREER PATH DEVELOPMENT |
|------------------|------------------------------------|-------------------------|--|----------------|---|
| 9-14 | ENC EN1 EN2 | 13.3 Yrs 8.3 3.7 | STA-21, OCS, MECP, Naval Academy, NROTC | 60 | 2 nd Sea Tour Billet: Maintenance Technician Duty: ACU, MSRON, MCM, PC, CVN, LCC, LPD, AS, LHA, LHD, LSD, CG, PHIB CB SEADU, LCS, BCHMSTR UNITS, NSW Qualification: WCS, ESWS, EXW, SCW |
| 6-9 | EN1 EN2 | 8.0 Yrs 3.7 | STA-21, OCS, MECP, Naval Academy, NROTC, RDC, Recruiter, Instructor Duty, SARP, Staff Duty, Brig Duty | 36 | 1 st Shore Tour Billet: ACU, BCHMSTR Units, SRF, NRD, PHIB CB, NSW, Instructor Duty: RMC, SWSC, ATG Qualification: MTS, ATS, SCW, NAMTS-Diesel Engine Governor Repair |
| 2-6 1-2 | EN2 EN3 | 3.1 Yrs 2.4 | STA-21, OCS, MECP, Naval Academy, NROTC | 55 | 1 st Sea Tour Billet: Maintenance Technician Duty: ACU, MSRON, MCM, PC, CVN, LCC, LPD, AS, LHA, LHD, LSD, PHIB CB SEADU, LCS, BCHMSTR Units Qualification: WCS, ESWS, SCW |
| 1+/- | ENFN ENFA Accession Training | 9 Months | | | Recruit Training, "A" and "C" schools |

Notes:

1. "A" School is not required.
2. In rate shore duty is limited; normally "A" or "C" School Instructor, IMAs, and ATGs. Most ENs can expect a tour in recruiting or as an RDC.
3. Tours at Flag Staff Duty, NPC and BUPERS require screening.
4. Tour at BUPERS 3 as an Enlisted Community Manager or Enlisted Community Manager Technical Adviser are for high-performing E8s or E9s. It is a highly competitive tour requiring thorough understanding of the Rating and manning and manpower policies. ECMs handle multiple Ratings affecting thousands of Sailors, adjudicate Career Waypoints applications, develop and present advancement, school and accession quotas, and strength policies and initiatives for community health.
5. The Diesel Engine Inspector (DEI) program is open to E-7 and above. Sea tours for DEIs are limited to LSD, LPD, LHA, LHD, and PHIBRON/ LCSRON staff billets. Shore tours are limited to RMC/IMF facilities and CNSG



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commands. Those who qualify as a DEI often assume a different career path once qualified, due to the limited billets available. Re-touring on a platform or at a unit is expected. They are expected to maintain regular Sea/Shore flow and should demonstrate leadership throughout those billets in which they are assigned. E6 may attend the course however if they pass the course certification is held until they are frocked to ENC. 6. EOOW- Engineering Officer of the Watch.

7. NEC Information:

a. 733B - LPD-17 Class Engineering Control System (ECS) Operator Utilizes Engineering Control System (ECS) consoles, aligns, operates, monitors, and conducts casualty control procedures in accordance with Engineering Operational Sequencing System (EOSS) on LPD-17 Class Main Propulsion Diesel Engines locally from the Propulsion Local Control Console (PLCC) and remotely from the Propulsion Auxiliary Control Console (PACC). Using the PQS manuals and EOSS procedures, course graduates will be able to perform tasks with limited supervision for all conditions of ship readiness both in port and underway.

b. U13A - LPD-17 Class Diesel Engine Technician operates and performs advanced organizational and/or intermediate maintenance to the component level on LPD-17 Main Propulsion Diesel Engines and Ships Service Generator Diesel Engines and their related systems.

c. U16A - Shipboard Engineering Plant Program Manager administers, manages and evaluates shipboard engineering programs. Recognizes engineering systems and major components external to the propulsion plant which comes under the cognizance of the Engineering Officer of the Watch (EOOW). Evaluates operating conditions and makes recommendations to the engineering officer.

d. U20A - PAXMAN Valenta Diesel Engine Operator operates and maintains PAXMAN Valenta Diesel Engines. Performs maintenance on the SF Reduction gear model BW 1500 in accordance with specifications and procedures outlined in the manufacturers technical manual or performance checklist.

e. 780B - Cummins Diesel Engines Technician operates and performs organizational and/or extensive intermediate maintenance and overhaul on the Cummins Diesel Engines (6BTA5.9M and 6B5.9M) and associated auxiliary equipment.

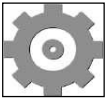
f. 744B - Caterpillar Diesel Technician operates and maintains Caterpillar model 3126 diesel engines in Naval Special Warfare Rigid Hull Inflatable Boats. Performs maintenance and troubleshooting in accordance with procedures as outlined in the manufacturer's technical manual or performance checklist.

g. U21A - Caterpillar Electronically Controlled Engine Technician
Performs organizational level maintenance and troubleshooting on Caterpillar B series engines.

h. U22A - MTU 2000 Series Diesel Engine Technician operates and performs organizational preventative maintenance, trouble shoots systems/components failures and performs corrective maintenance specifically on MTU 2000 series diesel engines, associated pumps and equipment in accordance with manufacturer's recommendations.

i. 745B - ALCO (251C) and General Motors EMD (645) Diesel Engine Technician operates and performs organizational and/or intermediate maintenance on the ALCO, and General Motors EMD diesel engines and associated auxiliary equipment.

j. 747B - Diesel Engine Inspector inspects and assesses material condition, monitors general readiness, provides on-board maintenance training, and diagnoses improper operating procedures and equipment casualties/failures and supports corrective actions of marine main propulsion diesel engines, diesel generators, and component systems.



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k. U23A - MCM Propulsion Technician operates and maintains, at the organizational level, Isotta Franchini diesel engines used for marine propulsion or generator service. Operates and maintains the SOLAR T-1302S-28AA Gas Turbine Generator set used on board the MCM class ships.

l. U24A - Fairbanks Morse (38D 8-1/8) and Colt Pielstick (PC2.5V) Diesel Engine Technician operates and performs organizational and/or intermediate maintenance on the Fairbanks Morse and Colt Pielstick diesel engines and associated auxiliary equipment.

m. U25A - LSD-41/49 Class Advanced Engineering Control System-Machinery Control System (AECS-MCS) Propulsion Systems Technician safely operates the Advanced Engineering Control System-Machinery Control System (AECS-MCS) using Engineering Operational Sequencing System (EOSS) procedures onboard upgraded LSD 41/49 Class Ships. Operates and performs organizational maintenance on the LSD-41/49 Class AECS propulsion system. Calibrates, inspects, assembles, disassembles, troubleshoots, and overhauls the Colt-Pielstick propulsion diesel, its associated subsystem and power trains.

n. U26A - NAMTS Diesel Engine, Governor, and Injector Repair Technician Performs Navy Afloat Maintenance Training Strategy (NAMTS) intermediate-level maintenance procedures on marine diesel engines including governor/injectors used for propulsion or generator service in support of Fleet-directed requirements. Demonstrates knowledge of intermediate-level repair procedures, repair and maintenance standards, quality assurance specifications, and proper use of maintenance industrial machinery.

o. U29A - Causeway Lighterage Engineer maintains the Improved Navy Lighterage System Warping Tug (WT) and/or Causeway Ferry (CF).

p. U69A - LCS-1 (Freedom Variant) Readiness Control Officer (RCO) Cross-trained in Main Propulsion and Support systems, Auxiliary systems, Electrical systems, Damage Control systems and the Main Propulsion Control and Monitoring System (MPCMS). Serve in supervisory and watch team management as well as advanced technical positions as RCO at sea and Engineering Duty Officer (EDO) in port. Utilizing Human Machine Interfaces (HMIs), Local and Remote Control Panels and Consoles, System Diagrams, oversee or perform aligning, operating, monitoring and casualty control procedures on all engineering systems in accordance with Engineering Operational Sequencing System (EOSS). Using PQS manuals, oversee career training of junior personnel. Using PMS maintenance cards, ship's technical manuals and EOSS procedures, supervise and guide planned and corrective maintenance. Perform tasks associated with the RCO (underway) and EDO (in port) shipboard watch station/position with limited to no supervision under all conditions of readiness.

q. U70A - LCS-2 (Independence Variant) Readiness Control Officer (RCO) Cross-trained in Main Propulsion and Support systems, Auxiliary systems, Electrical systems, Damage Control systems and the Engineering Control system (ECS). Serve in supervisory and watch team management as well as advanced technical positions as RCO at sea and Engineering Duty Officer (EDO) in port. Utilizing Human Machine Interfaces (HMIs), Local and Remote Control Panels and Consoles, System Diagrams, oversee or perform aligning, operating, monitoring and casualty control procedures on all engineering systems in accordance with Engineering Operational Sequencing System (EOSS). Using PQS manuals, oversee career training of junior personnel. Using PMS maintenance cards, ship's technical manuals and EOSS procedures, supervise and guide planned and corrective maintenance. Perform tasks associated with the RCO (underway) and EDO (in port) shipboard watch station/position with limited to no supervision under all conditions of readiness.

Considerations for advancement from E6 to E7

1. Sea Assignments (all)

- LPO at Sea/Operational/Joint
- Qualified EDO/EOOW/RCO (LCS specific) a plus
- At least one warfare pin



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- DCTT/ETT
- Command Collateral with documented impact
- Qualified 3M 301-305
- FCPOA involvement
- Sailor 360 involvement
- Passed the Diesel Engine Inspector Course a plus.

2. Shore Assignments (all)

- RDC(w/MTS)/ATG(w/ATS)/TYCOM Staff/BUPERS//Expeditionary Service/SPECWAR/Expeditionary/Rating Instructor (All screened billets)
- Instructor Duty (805A) (MTS at all levels)
- Completed PPME, USMAP
- Community involvement
- Passed the Diesel Engine Inspector Course a plus.

Considerations for advancement from E7 to E8

1. Sea Assignments (all)

- DLCPO/ LCPO FDNF a plus
- Qualified EDO/EOOW/RCO (LCS specific) a plus
- DEI a plus
- At least one warfare pin
- ETT Coordinator a plus
- Command Collateral with documented impact
- Completed PPME/JPME/USMAP/SEA
- Active CPO Mess involvement, holding a position with documented performance
- Sailor 360 involvement – Leading Initiation or a committee.

2. Shore Assignments (all)

- Recruiting Duty (serving as LSO or LCPO)/RDC/ATG (obtained ATS/MTS)/TYCOM Staff/BUPERS/SPECWAR/Expeditionary/Rating Instructor (obtained MTS) (All screened billets)/FLC's (impact billet on the waterfront)/ASD (with documented impact) Disaster Preparedness operations team leader.
- RMC DEI with documented waterfront impact on diesel readiness
- Completed PPME/JPME/SEJPME I/USMAP/SEA

Considerations for advancement from E8 to E9

1. Sea Assignments (all)

- DLCPO/LCPO(CVN) at Sea/Operational/Joint, FDNF a plus
- DEI a plus
- At least one warfare pin
- ETT Coordinator, EOOW/EDO/RCO (LCS specific)
- Command Collateral with documented impact
- Completed PPME/JPME/USMAP/SEA
- Active CPO Mess involvement, holding a position with documented performance
- Sailor 360 involvement – Leading Initiation or a committee.



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2. Shore Assignments (all)

- Recruiting Duty (serving as LSO or LCPO)/RDC (Ship LCPO)/ATG (obtained ATS/MTS)/TYCOM Staff/BUPERS/SPECWAR/Expeditionary/Rating Instructor (obtained MTS) (All screened billets)/FLC's (impact billet on the waterfront)/ASD (with documented impact)
- RMC DEI with documented waterfront impact on diesel readiness
- Completed PPME/JPME/SEJPME I and II/USMAP/SEA
- Served as SEL or DLCPO